

Amendments to the Claims

Please cancel claim 209, 228, and 247 without prejudice.

The following listing of claims will replace all prior versions and/or listings of claims in the application:

Listing of Claims:

1-205. (cancelled)

206. (original): A method for treating a hydrocarbon containing formation, comprising:
heating a first volume of the formation using a first set of heaters; and
heating a second volume of the formation using a second set of heaters, wherein the first volume is spaced apart from the second volume by a third volume of the formation, and wherein the first volume, the second volume, and the third volume are sized, shaped, and/or located to inhibit deformation of subsurface equipment caused by geomechanical motion of the formation during heating.

207. (original): The method of claim 206, further comprising allowing the heat to transfer from the first volume and the second volume of the formation to at least a part of the formation.

208. (original): The method of claim 206, wherein a footprint of the first volume, the second volume, or the third volume is sized, shaped, or located to inhibit deformation of subsurface equipment caused by geomechanical motion of the formation during heating.

209. (cancelled)

210. (original): The method of claim 206, further comprising calculating geomechanical motion in a footprint of the first volume or the second volume, and using the calculated

geomechanical motion to size, shape, or locate the first volume, the second volume, or the third volume.

211. (original): The method of claim 206, further comprising allowing the heat to transfer from the first volume and the second volume of the formation to at least a part of the formation, and producing a mixture from the formation.

212. (currently amended): The method of claim 206, wherein the third volume substantially surrounds the first volume, and the second volume substantially surrounds the ~~first~~third volume.

213. (original): The method of claim 206, wherein the third volume substantially surrounds all or a portion of the first volume, and the second volume substantially surrounds all or a portion of the third volume.

214. (original): The method of claim 206, wherein the third volume has a footprint that is a linear, curved, or irregular shaped strip.

215. (original): The method of claim 206, wherein the first volume and the second volume comprise rectangular footprints.

216. (original): The method of claim 206, wherein the first volume and the second volume comprise square footprints.

217. (original): The method of claim 206, wherein the first volume and the second volume comprise circular footprints.

218. (original): The method of claim 206, wherein the first volume and the second volume comprise footprints in a concentric ring pattern.

219. (original): The method of claim 206, wherein the first volume, the second volume, and the third volume comprise rectangular footprints.

220. (original): The method of claim 206, wherein the first volume, the second volume, and the third volume comprise square footprints.

221. (original): The method of claim 206, wherein the first volume, the second volume, and the third volume comprise circular footprints.

222. (original): The method of claim 206, wherein the first volume, the second volume, and the third volume comprise footprints in a concentric ring pattern.

223. (original): The method of claim 206, wherein the first volume, the second volume, or the third volume are sized, shaped, or located based on, at least in part, a calculated geomechanical motion of at least a portion of the formation.

224. (original): The method of claim 206, further comprising sizing, shaping, or locating the first volume, the second volume, or the third volume based on, at least in part, a calculated geomechanical motion of at least a portion of the formation.

225. (original): The method of claim 206, wherein the first volume, the second volume, or the third volume are sized, shaped, or located, at least in part, to inhibit deformation, caused by geomechanical motion of one or more selected wellbores in the formation.

226. (original): The method of claim 206, wherein the first volume, the second volume, or the third volume are at least in part sized, shaped, or located based on a calculated geomechanical motion of at least a portion of the formation, and wherein the first volume, the second volume, or the third volume are sized, shaped, or located, at least in part, to inhibit deformation, caused by geomechanical motion, of one or more selected wellbores in the formation.

227. (original): The method of claim 206, wherein the first volume, the second volume, or the third volume of the formation have been sized, shaped, or located, at least in part, based on a simulation.

228. (cancelled)

229. (original): The method of claim 206, wherein a footprint area of the first volume, the second volume, or the third volume is less than about 400 square meters.

230. (original): The method of claim 206, further comprising heating with a third set of heaters after a selected amount of geomechanical motion in the first volume or the second volume.

231. (original): The method of claim 206, further comprising heating with a third set of heaters to maintain or enhance a production rate of a mixture from the formation.

232. (original): The method of claim 206, further comprising maintaining a temperature in at least a portion of the formation in a pyrolysis temperature range with a lower pyrolysis temperature of about 250 °C and an upper pyrolysis temperature of about 400 °C.

233. (original): The method of claim 206, further comprising pyrolyzing at least some hydrocarbons in the formation.

234. (original): The method of claim 206, further comprising controlling a pressure and a temperature in at least a part of the formation, wherein the pressure is controlled as a function of temperature, or the temperature is controlled as a function of pressure.

235. (original): The method of claim 206, further comprising producing a mixture from the formation.

236. (original): The method of claim 235, wherein the produced mixture comprises condensable hydrocarbons having an API gravity of at least about 25°.
237. (original): The method of claim 235, further comprising controlling formation conditions such that the produced mixture comprises a partial pressure of H₂ in the mixture greater than about 0.5 bars.
238. (original): The method of claim 206, further comprising controlling a pressure in at least a part of the formation, wherein the controlled pressure is at least about 2.0 bars absolute.
239. (original): The method of claim 206, wherein the formation comprises an oil shale formation.
240. (original): The method of claim 206, wherein the formation comprises a coal formation.
241. (original): A method for treating a hydrocarbon containing formation, comprising:
heating a first volume of the formation using a first set of heaters;
heating a second volume of the formation using a second set of heaters, wherein the first volume is spaced apart from the second volume by a third volume of the formation;
heating the third volume using a third set of heaters, wherein the third set of heaters begins heating at a selected time after the first set of heaters and the second set of heaters;
allowing the heat to transfer from the first volume, the second volume, and the third volume of the formation to at least a part of the formation; and
producing a mixture from the formation.
242. (original): The method of claim 241, wherein the first volume, the second volume, or the third volume are sized, shaped, or located based on, at least in part, a calculated geomechanical motion of at least a portion of the formation.

243. (original): The method of claim 241, further comprising sizing, shaping, or locating the first volume, the second volume, or the third volume based on, at least in part, a calculated geomechanical motion of at least a portion of the formation.

244. (original): The method of claim 241, wherein the first volume, the second volume, or the third volume are sized, shaped, or located, at least in part, to inhibit deformation, caused by geomechanical motion, of one or more selected wellbores in the formation.

245. (original): The method of claim 241, wherein the first volume, the second volume, or the third volume are at least in part sized, shaped, or located based on a calculated geomechanical motion of at least a portion of the formation, and wherein the first volume, the second volume, or the third volume are sized, shaped, or located, at least in part, to inhibit deformation caused by geomechanical motion of one or more selected wellbores in the formation.

246. (original): The method of claim 241, wherein the first volume, the second volume, or the third volume of the formation has been sized, shaped, or located, at least in part, based on a simulation.

247. (cancelled)

248. (original): The method of claim 241, wherein a footprint area of the first volume, the second volume, or the third volume is less than about 400 square meters.

249. (original): The method of claim 241, wherein the third set of heaters begins heating after a selected amount of geomechanical motion in the first volume or the second volume.

250. (original): The method of claim 241, wherein the third set of heaters begins heating to maintain or enhance a production rate of the mixture from the formation.

251. (original): The method of claim 241, wherein the selected time has been at least in part determined using a simulation.

252. (original): The method of claim 241, wherein the first volume and the second volume comprise rectangular footprints.

253. (original): The method of claim 241, wherein the first volume and the second volume comprise square footprints.

254. (original): The method of claim 241, wherein the first volume and the second volume comprise circular footprints.

255. (original): The method of claim 241, wherein the first volume, the second volume, and the third volume comprise rectangular footprints.

256. (original): The method of claim 241, wherein the first volume, the second volume, and the third volume comprise square footprints.

257. (original): The method of claim 241, wherein the first volume, the second volume, and the third volume comprise circular footprints.

258. (original): The method of claim 241, wherein the first volume, the second volume, and the third volume comprise footprints in a concentric ring pattern.

259. (original): The method of claim 241, further comprising maintaining a temperature in at least a portion of the formation in a pyrolysis temperature range with a lower pyrolysis temperature of about 250 °C and an upper pyrolysis temperature of about 400 °C.

260. (original): The method of claim 241, further comprising pyrolyzing at least some of the hydrocarbons in the formation.

261. (original): The method of claim 241, further comprising controlling a pressure and a temperature in at least a majority of the part of the formation, wherein the pressure is controlled as a function of temperature, or the temperature is controlled as a function of pressure.

262. (original): The method of claim 241, wherein the produced mixture comprises condensable hydrocarbons having an API gravity of at least about 25°.

263. (original): The method of claim 241, further comprising controlling a pressure in at least a majority of a part of the formation, wherein the controlled pressure is at least about 2.0 bars absolute.

264. (original): The method of claim 241, further comprising controlling formation conditions such that the produced mixture comprises a partial pressure of H₂ in the mixture greater than about 0.5 bars.

265. (original): The method of claim 241, wherein the third set of heaters begins heating about 6 months after the first set of heaters or the second set of heaters begins heating.

266. (original): The method of claim 241, wherein the formation comprises an oil shale formation.

267. (original): The method of claim 241, wherein the formation comprises a coal formation.

268-1690. (cancelled)

1691. (new): A method for treating a hydrocarbon containing formation, comprising:
heating a first volume of the formation using a first set of heaters; and
heating a second volume of the formation using a second set of heaters, wherein the first volume is spaced apart from the second volume by a third volume of the formation; and

sizing, shaping, and/or locating the first volume, the second volume, and the third volume to inhibit deformation of subsurface equipment caused by geomechanical motion of the formation during heating.

1692. (new): The method of claim 1691, wherein sizing, shaping or locating the first volume, the second volume, and the third volume is based on, at least in part, calculated geomechanical motion of at least a portion of the formation.

1693. (new): The method of claim 1691, wherein the first volume and the second volume comprise footprints in a concentric ring pattern.